

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 08/664,238

**REMARKS**

Claims 2-10 and 12-60, all the claims pending in the application, stand rejected.. New claims 61-76 have been added.

***Preliminary Comments***

Applicant is grateful for the courtesy extended to the Applicant and his representative during an interview conducted on May 16, 2001.

The present invention as set forth in the pending claims, including the rejected claims and newly added claims, is directed to a videoconference and data conference system that provides for both local and remote collaboration, with the location and identity of participants being determined through the processing of logins entered at workstations anywhere in the system. Applicant has asserted throughout the prosecution that it would not have been obvious to combine the references as proposed by the Examiner because of a lack of any teaching of all limitations of the claimed invention in the prior art and the lack of any motivation to make that combination. In the newly added claims, Applicant has endeavored to further emphasize several additional independent inventive features, as disclosed in the original specification, particularly at pages 22-39.

Specifically, the basic features of the invention permit participants at any of a plurality of local or remote workstations to log into the system and, thereby, enable their participation in a two-way or multi-party video conference event in a flexible, accommodating manner. The application discloses the two-party video conferencing (specification at pages 32-36) and multi-party conference calls (pages 36-39) may be initiated from any “collaborative multi-media workstation” (CMW 12), which may be connected within a multimedia local area network

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(MLAN 10). Communication between or among workstations within a given MLAN is considered to be "local" while communication between workstations that are connected to different MLANs, which communicate via a wide area network (WAN), are considered to be "remote". An embodiment of a CMW 12 is disclosed at pages 22-27 where it is clearly taught that each CMW has audio/video I/O ports for connection into the MLAN and, if remote communication is desired, a second MLAN via a WAN. Each CMW includes software modules 160, as illustrated generally in Fig. 20 and disclosed at pages 27-30. The invention clearly is intended to accommodate arbitrary numbers of remote sites, each with arbitrary numbers of workstations. Further, each of these workstations is permitted to have a variable set of capabilities with respect to the handling of audio, video, data, and control.

The central component of the software modules 160 for purposes of establishing a collaboration activity is the Collaboration Initiator 161, through which all collaborative functions can be accessed. The Collaboration Initiator presents a user interface that allows a user to initiate collaborative sessions, both real-time and asynchronous, with other local or remote CMWs. The Collaboration Initiator interfaces cooperatively with a software module 62 (Fig. 21) that is assigned to each MLAN and contains a directory service 66 and an audio video network manager (AVNM 63). The Collaboration Initiator exchanges login information with the audio/video network manager (AVNM 63 - Fig. 23), and in particular, with the services server 69. The AVNM manages A/V switching circuitry 30 (see Fig. 3) for selectively routing audio/video signals to and from CMWs 12, and also to and from WAN gateway 40, as required by a CMW 12, conference bridge 35 or WAN gateway 40. In short, the Collaboration Initiator is

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key to the establishment of a communication link between a calling CMW 12 and a called participant at a "local" CMW within the same MLAN or a CMW in a "remote" MLAN via a WAN. If the called participant is at a remote site, the caller's request must pass through a WAN gateway 40 for transmission via WAN 15 to the Collaboration Initiator of the called participant's CMW at the remote site.

Because each CMW must have the capability of communication within a local MLAN or with a remote MLAN, via a WAN, the process and protocol for a calling CMW to identify, address and connect with the called CMW becomes complex. This complexity is multiplied by the fact that a called party can be using any of several terminals in a local or remote MLAN. As explained at pages 29-30 of the specification, the user can select a desired participant and session type for the video conference thereby causing the Collaboration Initiator module 161 to retrieve necessary addressing information from a directory service 66 (Fig. 21). This same process applies to both video conference calls and data conferencing sessions. The method and apparatus by which the Collaboration Initiator determines the availability of a called participant and provides information with regard to the establishment of the call is a focus of the claimed invention.

As disclosed at page 28, when the Collaboration Initiator is first started, it exchanges initial configuration information with the AVNM 60 through the data network 902. Specifically, information is sent from the Collaboration Initiator to the AVNM indicating the location of the user, the type of services available on network station and other relevant initialization information. The information concerning the most current known location of the user, if any, is

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provided at each login action of the user. Since, at a given time, a user may log into any of a number of workstations, the precise data port and AV port information (based on unique ID or address) of one or more workstations where a desired participant has registered by means of a login must be identified. However, because the communication may be to any terminal within a local MLAN or remote MLAN, and further the user may be logged in at one or more than one workstation, the addressing for the user necessarily requires an identification of both (1) the data communications ports of one or more terminals at which a user may have logged into as well as (2) the specific workstation's A/V ports to be employed once the call has been accepted. This is because the user's login must be associated with the one or more datacom ports, so as to send an incoming call notification.

The login processing within the invention thus requires (A) a process of relating a login name for a participant to one or more of the datacom ports at which a participant is logged in (or no ports if the participant is not logged in), and (B) the AV ports of the specific workstation from which the call is accepted. A two step process is used to provide the significant flexibility for users to log in at none, one or multiple workstations, at any local and remote location, as well as immense scalability, enabling a large number of users to be accessed at any one of a large number of local or remote locations. The first step in the two step process involves a dynamic association between the user's login name and a terminal identifier (ID), using login event information provided by the user (via the Collaboration Initiator) from one or more workstations. A second required step involves a static association between each terminal ID and both an A/V port and data communications port. The datacom ports affiliated with each terminal

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ID where the participant has logged in are first used to deliver call notification. When the user accepts the call at a particular workstation (explicitly or as auto answer), the particular data communication ports and AV ports of the workstation associated with that particular terminal ID from which the acceptance action was made are employed in the subsequent call control, AV connection, and any subsequent data collaboration. The two step process and related information exchanges are depicted in Fig. 23.

The foregoing capabilities may be distinguished in many ways from the disclosure of Biswas, Rangan and Vin, each of which handle only a single location, a single workstation per active user at any given time, and a single user per workstation. The new claims now emphasize that the login feature of the invention enables both local and remote connection between workstations, and logins for the same user at multiple workstations. As explained subsequently, these features are not contemplated by nor would it be obvious in view of any of the cited references, specifically Biswas, Rangan, Vin or Champa. Further, the new claims also call out the invention's association of a login with at least one data communications port and with one (analog or digital) AV communications port. None of the cited references, individually or in combination, provide for this.

Because the new claims are derived from the rejected claims and have had limitations added thereto to emphasize the above features, they are discussed with respect to the rejections made of the original claims.

*Claim Rejections - 35 U.S.C. § 103*

Claims 2-10, 12-16, 25 and 48-60

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Claims 2-10, 12-16, 25 and 48-60 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Biswas et al and further in view of Rangan and Vin. This rejection is traversed. Moreover, the rejection of independent claims 2, 25 and 48 clearly is not applicable to the invention of corresponding claims 61, 66, 72 and the claims dependent therefrom. The Applicant's reasoning for the patentability of each of independent claims 2, 25 and 48, as well as corresponding claims 61, 65 and 72, respectively, follows:

**Claims 2 and 61**

The new claim 61 adds to original claim 2 a recitation that **each workstation has a unique ID and that each A/V port also has a unique ID**. New claim 61 also adds the significant limitation that the AV conference manager can manage a videoconference among a plurality of workstations that may be **disposed in different local area networks**, and that the AV conference manager comprises a **means for mapping between predetermined participant identifiers and A/V ports on a corresponding workstation using said terminal ID and port ID information**.

In short, new claim 61 is patentable for the reasons that claim 2 is patentable and because the prior art does not teach the foregoing new limitations.

With reference first to the rejection of claim 2, the Examiner finds in Biswas a distributed meetings application in which a participant at a workstation logs in and, as a result, meeting information is routed to and displayed at that workstation. The Examiner admits that Biswas does not teach a teleconferencing system with A/V path for video/audio A/V conference management, etc. The Examiner states in regard to Applicants previous arguments that the A/V

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path, video/audio equipment, etc., "amount to more than a field of use because the various recited elements are not needed for the functioning of the participant locator." The Examiner looks to Rangan for its disclosure of their single-site Etherphone teleconferencing system comprising workstations having audio and video reproduction capabilities. The Examiner notes that Rangan's system requires the use of a "participant locator" based upon the Macaw subsystem. In fact, the Macaw system provides no "location" function. The Examiner admits that Rangan does not specifically disclose that the system is configured to associate a participant with only each workstation at which the participant logs in, because Rangan uses a "connect command" having a participant ID parameter (p. 1397, col. 2). The Examiner does not appear to recognize the distinction that this "connect command" employs in fact a static hard-coded association between the user name IDs and that user's dedicated specific office workstation. Nonetheless, the Examiner asserts that it would have been obvious for one of ordinary skill to incorporate the feature of Biswas into the Rangan system "because it would have enable[d] routing calls of audio/video services with distributed computing and multimedia collaboration to the station that participant is currently using." However, there is no teaching provided as to how this would be done, given the differing software processing and addressing facilities making up the two systems. Several non-obvious steps required to fill gaps between the systems are ignored in this assertion, as well as other aspects of the invention, such as multiple logins and multiple local or remote locations. In short, there would be no motivation to combine the references and, even if combined, the references would not meet the limitations of claim 2

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Moreover, the references have nothing to do with the assignment of unique terminal ID and AV port ID's as recited in claim 61 because Biswas is not concerned with AV and Rangan never discusses terminal or AV port ID's. Moreover, neither reference contemplates nor facilitates the application of logins to networks involving workstations in different LANs. Finally, there clearly is no teaching of a structure that corresponds to the AV conference manager means for mapping between predetermined participant identifiers and AV ports using terminal ID information.

**Claims 25 and 66**

Independent claim 66 would be patentable for many of the same reasons that claim 25 is considered as patentable, and claim 66 would be patentable for these same and additional reasons. Specifically, claim 25 is directed to a method of conducting teleconferencing among a plurality of participants using workstations, where the transmission of an initiated call is conducted by routing the initiated call to only those workstations at which the second participant is logged in. Claim 68 is even more patentable because it recites that each workstation has **AV ports**, that “at least a first and second of said workstations [are] disposed in **different local area networks**,” that there is “**mapping between predetermined participant identifiers and AV ports**,” and that calls are routed to participants “**on the basis of said participant unique identifiers and said unique port identifiers**.” Clearly, none of these features are seen in any of the prior art references cited by the Examiner.

**Claims 48 and 72**

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Independent claim 48 would be patentable for many of the same reasons that claim 2 is considered as patentable, and claim 72 would be patentable for these same and additional reasons. Specifically, claim 72 is directed to a teleconferencing system having an AV path and a data path for conducting a teleconference among a plurality of participants, where the data path associates a participant only with each of a plurality of workstations at which the participant currently is logged-in, and where an incoming call notification is routed to only those workstations at which the participant is logged in. Claim 72 is even more patentable because it recites that first and second of said workstations are connected **in first and second local area networks**. Further, claim 72 defines the AV conference manager as comprising at least a **“directory server and a service server for mapping between predetermined participant identifiers and AV ports on a corresponding workstation.”**

**Dependent Claims 3, 6, 12-13, 49-50, 55-56, 60, 62-65 and 73-76**

With regard to claims 3, 6, 12-13, 49-50, 55-56 and 60, the Examiner admits that Rangan does not disclose a service directory of the workstation audio/video capability. The Examiner cites Vin for its disclosure of an Etherphone system "using common capabilities or mixed capabilities by determining audio video capabilities of the workstations [p. 72, col. 3]." The Examiner concludes that this would support the use of a directory as claimed.

The Examiner also provides specific comments with regard to the application of teachings in Rangan to claims 4, 5, 7, 8-9, 10, 14, 15, 16, 51 and 57.

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The Examiner has not had the opportunity to comment with regard to new dependent claims 62-65 or 73-76, but the basis for patentability would rest at least on the features of claim 61 and 72.

The basis for distinguishing the cited references from the rejected and new claims follows.

**Biswas et al**

The Examiner admits that Biswas has nothing to do with the transmission of audio/video information. Biswas merely teaches a local system for distributed scheduling of meetings. In other words, this 1992 reference is solely focused on (1) a local area network system having plural workstations or nodes within a single location in order to permit (2) scheduling of meetings with local researchers and staff members. Thus, it appears that a user on a single common LAN may work at any of a number of workstations connected to that LAN. Therefore, when a user logs in at a terminal on that common LAN, the system manager permits an addressable communication among logged-in users at their current terminal. Biswas does not teach the manner in which communication may be obtained using this login capability where terminals are located in different LANs that are connected by a WAN. The Biswas reference, being limited to a single data LAN, inherently keeps track of the ports on the terminals at which a user is logedin. Biswas uses a name server (NS) which is a process executing at each node, i.e., each terminal, within a single LAN for keeping a set of names and corresponding datacom port numbers for terminals on that single LAN. It provides an Internet address and port number of a process, given a logical name. (Page 662). However, this server could not act to provide

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communication between terminals located on remote LANs without extensive innovation and modification. The port numbering would need to be extended to accommodate multiple LAN and domains, and the NS would have to be converted from local (on each workstation) to centralized, since maintaining the NS at each node would create message exchange explosion. Further, the additional problem of associating datacom ports and AV ports, which is discussed below, is also ignored. Biswas further does not recognize the need for or otherwise provide a structure having the capability for multiple logins by the same user.

Rangan

The Rangan reference is also directed to a single-site, primitive local area network system. A plurality of computers, which are supplemented by video gear and a LAN transport system, are connected to a data LAN and an A/V switch, operating under local primitive control. Rangan's only concern is communication on a single local area network having a static association of user names and dedicated workstations. There is no consideration within Rangan of the extrapolation of the disclosed local area network system to a network involving multiple local area networks connected via a WAN. There also is no association of terminal ID components nor other provisions so that AV ports and datacom ports can be flexibly associated with anything other than the user name. In short, Rangan does not have the incentive to examine the addressing requirements that would be made for a system having the capability of communicating between terminals connected to different LAN networks.

Rangan clearly does not use login to identify and locate users within his local area network. The Examiner admits that Rangan requires the establishment of a connection by user

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of a connect command directly indicating a participant ID parameter and not a connection made by processing of login information. No teaching or disclosure in Rangan or in Biswas would support the use of a login address processing in the Rangan system. Rangan is satisfied with the use of a connect command having participant ID parameters. There is no reason disclosed in Rangan for using login, nor is there a reason disclosed in Biswas for teaching Rangan to substitute login for its connect command. At a minimum, Biswas is limited only to scheduling and does not teach the use of video and audio, nor does it recognize the complexity involved in call control and switching of separate channels of audio and video, even in a single local area network configuration.

Further, when one considers the environment of the present invention, where terminals in remotely located LANs must communicate, it is clear that neither Biswas nor Rangan consider such a possibility. This is not surprising since the addressing utilized by Biswas on the basis of login detection would be wholly inapplicable to a remote system architecture. Biswas does not consider use of remote workstations. Moreover, Biswas does not consider the provision of a mapping between terminal dataports and separate channels of A/V in any station, let alone the accommodation of workstations on remote networks. Finally, Biswas had no teaching or incentive nor any inclination to provide the two-part translation between a login name and terminal ID and then terminal ID and A/V port/data communications port that the applicant teaches is needed for a scalable, robust and operative participant locating environment.

Rangan, like Biswas, is not concerned with remote LAN communications. While Rangan does concern A/V communication from port-to-port between workstations, the manner in which

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such communication may take place between workstations in remote LANs is not recognized, obvious or understood.

Since Vin is simply an extension of the Rangan system, using Macaw to reroute users to a new location, there clearly is no teaching that a participant should be associated only with a workstation at which the participant logs in. Again, a connect command having a participant ID parameter would have to be used rather than a login.

Moreover, as to the application of VIN in the rejection, the Examiner assertion that the Etherphone system of Vin, provides conferencing using common capabilities or mixed capabilities by determining audio/video capabilities of the workstations, and thus would encompass a "service directory" as set forth in claims 3, 6, 12-13, 49-50, 55-56, and 60, is not understood. There is no reason for use of a service directory provided in Vin or Rangan. This assertion simply involves the impermissible use of hindsight based on the Applicants own teachings.

**Dependent Claims 17, 19-21 and 65**

Claims 17, 19-20, and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Biswas et al and the Etherphone system as disclosed by Rangan and Vin, and further in view of Champa (5,315,633). All of the rejected claims depend from the previously rejected independent claims 2 and 25. Thus, arguments for their patentability would be based upon the arguments made for the independent claims 2 and 25. Moreover, this rejection involving independent claims 17 and 19-21 is overcome and clearly is not applicable to the invention of claim 65, which corresponds to claim 17, for the following reasons:

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**Claims 17 and 65**

The new claim 65 adds to original claim 17 a recitation that the compressed AV signals originate at terminal at a first location **in a first LAN** and are destined for a terminal at a second location **in a second LAN**, further emphasizing each workstation is **disposed in different local area networks**.

Turning to Champa, the Examiner asserts that it teaches a teleconferencing system having an A/V path for carrying A/V signals connected to plural workstations via a hub, acting as a third location, as well as an A/V switch (Fig. 5). However, Champa does not teach anything with regard to the use of a login capability for establishing a connection between terminals that are within a local LAN nor those in remote LANs. Thus, Champa is wholly inadequate to supplement the deficiencies of the combination of Biswas, Rangan and Vin, as previously discussed.

New claim 65 is patentable for the reasons that claim 17 is patentable and because the prior art does not teach the additional new limitations noted above.

**Claims 18, 22-24, 26-47 and 67-71**

Claims 18, 22-24, 26-47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Biswas et al, the ether phone system and Champa and further in view of IBM TDB Vol. 34, No. 7A, December 1991.

This rejection involving independent claims 26 and 39 clearly is overcome, and is not applicable to the invention of corresponding claims 67 and 68 and the claims dependent therefrom for the following reasons:

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**Claims 26 and 39 and claims 67 and 68**

The Examiner admits that Champa does not disclose a data conference manager using network protocol to control a videoconference and looks to IBM for such teaching. However, again the patentability of the rejected claims depends at least upon the patentability of the independent claims from which claims 18, 22-24 and 26-47 depend. The IBM TDB does not contemplate a login procedure which would enable the establishment of a communication between terminals which are either disposed in the same LAN or those disposed in remote LANs. Thus, the deficiencies of the initial rejection of the independent claims based on Biswas, Rangan and Vin would not be overcome.

Applicants wish to emphasize that the login technique employed by the present invention, which involves a mapping between terminals connected in one or more LANs and respective A/V ports, on the basis of processed (requiring two steps in the preferred embodiment) login information, is not taught anywhere in the prior art. The complex addressing and address translation schemes that would be involved in a given terminal at a first LAN to address a second terminal at a remote LAN via a WAN network extends far beyond the primitive teachings of any of the three references.

The new claims 67 and 68 add to original claims 26 and 39, respectively that each of first and second workstations are located in **different local area networks**. New claims 67 and 68 are patentable for the reasons that claims 26 and 39 are patentable and because the prior art does not teach the foregoing new limitation.

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For the foregoing reasons, none of independent claims 26, 39, 67 or 68, or any claims dependent therefrom would be obvious in view of the cited prior art.

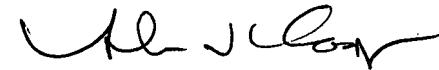
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. Applicant submits that the addition of Biswas in place of the previously cited UNIX reference does not remedy the fundamental difference between the present invention and the teachings of the prior art, to the extent that such art may even be combinable. UNIX was deficient because it was a primitive communication system that permitted only two participants at a time in a phone conversation on a local LAN. While Biswas does teach that multiple parties on a local LAN can log-in to get messages (without any relation to audio or video), it clearly falls short of the teaching required to place a log-in feature in Rangan or Vin. Applicant is not claiming the simple use of a log-in. Applicant is claiming that a videoconference network having multiple workstations can enable call initiation and participation on the basis of a login-by a participant. Moreover, with regard to the new claims, that log-in is inter-LAN and based upon AV port and terminal ID's, a concept not even remotely suggested by any of the cited art. Patentability has clearly been established.

If any further points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

The claims are amended as follows:

61. (New) A teleconferencing system for conducting a teleconference among a plurality of participants, comprising:

- (a) a plurality of workstations, each having **a unique terminal ID and at least one A/V port having a unique port ID**, visual image display monitor and associated participant audio and video capture and reproduction capabilities;
- (b) an AV path for carrying AV signals representing video images and spoken audio of the participants among the workstations; and
- (d) an AV conference manager configured to manage a videoconference **among a plurality of workstations that may be disposed in different local area networks** during which the video image and spoken audio of one participant, captured at a workstation, is reproduced at another workstation, wherein the system is configured to associate a participant with only each workstation at which the participants logs in and to route a videoconference call, for that participant, to each workstation at which that participant is logged in, **said AV conference manager comprising a means for mapping between predetermined participant identifiers and AV ports on a corresponding workstation using said terminal ID and port ID information.**

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**Claim 62 (new)** The teleconferencing system of claim 61, wherein the AV path connects the workstation of a first participant at a first location in a first local area network to the workstation of another participant at a second location in a second local area network, the system further comprising at least first and second codecs, respectively at the first and second locations, configured to compress AV signals and decompress compressed AV signals.

**Claim 63 (new)** The teleconferencing system of claim 62, wherein the AV conference manager comprises a means for processing login information is at least two steps.

**Claim 64 (new)** The teleconferencing system of claim 61, wherein said plurality of work stations comprise a workstation at a local site and at least one of said workstations at remote sites, and wherein the number of said at least one of said workstations at remote sites as well as and a corresponding number of logins are an arbitrary number.

**Claim 65 (new)** The teleconferencing system of claim 61, wherein the AV path connects the workstation of a first participant at a first location **in a first local area network** to the workstation of another participant at a second location **in a second local area network** via a third location, the system further comprising:

- (a) at least first and second codecs, respectively at the first and second locations, configured to compress AV signals and decompress compressed AV signals; and
- (c) an AV signal switch at the third location, operable to route compressed AV signals **originating at a terminal at said first location and destined for another terminal at said second location** without the compressed signals being decompressed at the third location.

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**Claim 66 (new)** A method of conducting a teleconference among a plurality of participants using workstations with **AV ports and** associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of the participants, **at least a first and second of said workstations being disposed in different local area networks, and being used by first and second participants,** the method comprising the steps of:

- (a) associating first and second participants only with each workstation logged into by a first and second participant, respectively, each participant having a unique identifier;
- (b) initiating a call from the first to the second participant **and mapping between predetermined participant identifiers and AV ports, each AV port having a unique port identifier, on a corresponding workstation;**
- (c) routing the initiated call to each and only each workstation at which the second participant is logged in **on the basis of said participant unique identifiers and said unique port identifiers;**
- (d) capturing participant video images and audio of the first and second participants;
- (e) carrying AV signals representing the captured video images and spoken audio of the participants along an AV path among workstations associated with the first and second participants; and
- (f) managing a videoconference during which the video image and spoken audio of the first participant is reproduced at the workstation of the second participant.

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**Claim 67 (new)** A teleconferencing system for conducting a teleconference among a plurality of participants, **at least a first and second of said workstations being disposed in different local area networks, and being used by first and second participants,** the teleconferencing system comprising:

- (a) a plurality of workstations having a visual image display monitor and associated participants audio and video capture and reproduction capabilities;
- (b) an AV path for carrying AV signals representing video images and spoken audio of the participants among the workstations; and
- (c) an AV conference manager configured to manage a videoconference during which the video image and spoken audio of one participant, captured at a workstation, are reproduced at another workstation;

wherein the system is configured to manage a data conference, during which shared data is displayed interactively on the visual display monitor of at least two participants; and configured to associate a participant with each workstation at which the participant logs in and to route a videoconference call for that participant, to each workstation at which that participant is logged in.

**Claim 68. (new)** A method of conducting a teleconference among a plurality of participants using workstations with associated monitors for displaying visual images, and with associated AV capture and reproduction capabilities for capturing and reproducing video images and

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spoken audio of the participants, **at least a first and a second of said workstations being located in different local area networks**, the method comprising the steps of:

- (a) associating first and second participants, respectively, with each **of said first and second workstation** logged into by a first and a second participant;
- (b) initiating a call from the first to the second participant;
- (c) routing the initiated call to each and only each workstation at which the second participant is logged in;
- (d) capturing participant video images and audio of the first and second participants;
- (e) carrying AV signals representing the captured video images and spoken audio of the participants along an AV path among workstations associated with the first and second participants;
- (f) managing a videoconference during which the video image and spoken audio of the first participant is reproduced at the workstation of the second participant; and
- (g) sharing data, along a data path, among workstations associated with the first and second participants;
- (h) managing a data conference, during which images based on the shared data are displayed interactively on at least one workstation monitor associated with each of the first and second participants.

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**Claim 69 (new)** The method of conducting a teleconferencing of claim 68, wherein the step of associating first and second participants comprises processing login information in at least two steps..

**Claim 70 (new)** The method of conducting a teleconferencing of claim 69, wherein the at least two steps comprises associating a name with a terminal ID and associating a terminal ID with at least one of a datacom port ID and an AV channel.

**Claim 71 (new)** The method of conducting a teleconferencing of claim 69, wherein the at least two steps further comprises associating a terminal ID with a WAN gateway port ID.

**Claim 72 (new)** A teleconferencing system for conducting a teleconference among a plurality of participants, comprising:

a) a **first plurality of workstations connected in a first local area network**, each having a log-in procedure for registering a participant and comprising a visual image display monitor and associated participant audio and video capture and reproduction capabilities; **and**

**a second plurality of workstations connected in a second local area network**, each having a login procedure for registering a participant and comprising a visual image display monitor and associated participant audio and video capture and reproduction capabilities;

b) an AV path for carrying AV signals representing video images and spoken audio to and from selected ones of the **first and second plurality of workstations**;

c) a data path for carrying control signals to and from each of said **first and second plurality of workstations**; and

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d) at least one AV conference manager configured to manage a videoconference during which the video image and spoken audio of one participant, captured at a workstation, is reproduced at another workstation,

wherein the system is configured to use said data path to associate a participant with only each of a plurality of workstations at which the participant logs-in and to route an incoming videoconference call notification, for that participant, to each workstation at which that participant is currently logged-in, **said AV conference manager comprising at least a directory server and a service server for mapping between predetermined participant identifiers and AV ports on a corresponding workstation.**

**Claim 73 (new)** The teleconferencing system of claim 72, wherein the AV path connects the workstation of a first participant at a first location in a first local area network to the workstation of another participant at a second location in a second local area network, the system further comprising at least first and second codecs, respectively at the first and second locations, configured to compress AV signals and decompress compressed AV signals.

**Claim 74 (new)** The teleconferencing system of claim 72, wherein the AV conference manager comprises a means for processing login information is at least two steps.

**Claim 75 (new)** The teleconferencing system of claim 73, wherein the AV conference manager comprises a means for processing login information is at least two steps.

**Claim 76 (new)** The teleconferencing system of claim 75, wherein the different local area networks are connected by a wide area network, and said wide area network comprises a network port having unique port ID's, said unique port ID's being utilized in said processing.